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SAR Test Report

Report Number: M150813_FCC_8260NGW_SAR_5.6

Test Sample:	Portable T series LifeBook Convertible PC
Host PC Model Number:	T726
Radio Modules:	WLAN 2x2 IEEE802.11ac/abgn and Bluetooth BT4.1(BDR/EDR/AFH/BLE)
PC System FCC ID:	EJE-WB0095
PC System IC:	337J-WB0095
Date of Issue:	17th September 2015

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1.0 GENERAL INFORMATION

Test Sample: Portable T series LifeBook Convertible PC
Model Name: T726
Radio Modules: WLAN and Bluetooth combo Snowfield Peak 8260NGW
Interface Type: M.2 Wireless LAN Module
Device Category: Portable Transmitter
Test Device: Pre-Production Unit
FCC System ID: EJE-WB0095

PC System IC: 337J-WB0095
RF exposure Category: General Population/Uncontrolled

Manufacturer: Fujitsu Limited

Test Standard/s:

1. KDB 248227 D01 SAR measurements for 802 11 a b g v02r01
   KDB 447498 D01 General RF Exposure Guidance v05r02
   KDB 616217 D04 SAR for laptop and tablets v01r01
   KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
   KDB 865664 D02 RF Exposure Reporting v01r01
2. Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands), RSS-102
3. **EN 62209-2:2010**
   Human exposure to radio frequency fields from hand-held and bodymounted wireless communication devices. Human models, instrumentation, and procedures.
   Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)
4. **IEEE 1528: 2013**
   Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head Due to Wireless Communications Devices: Measurement Techniques.

Statement Of Compliance: The Fujitsu convertible Tablet Computer T726 with Wireless LAN and Bluethooth model 8260NGW module complied with the FCC General public/uncontrolled RF exposure limits of 1.6mW/g per requirements of 47CFR2.1093(d). It also complied with IC RSS-102 requirements.
Highest Reported SAR: 5 GHz WLAN Band - 0.681mW/g

Test Dates: 7th to 14th September 2015

Test Officer:

Peter Jakubiec

Authorised Signature:

Chris Zombolas
Technical Director

SAR TEST REPORT
Portable Convertible PC Computer
Model: T726
Report Number: M150813_FCC_8260NGW_SAR_5.6

Table 1

Table of Revisions				
Report Number	Revision Number	Description	Pages affected	Date
M150813_FCC_8260NGW_SAR_5.6	1	Original	N/A	15th Sep. 2015

2.0 INTRODUCTION

Testing was performed on the Fujitsu convertible Tablet PC, Model: T726 with INTEL Half Mini-PCI Wireless LAN and Bluetooth Module (Snowfield Peak 802.11a/b/g/n/ac), Model: 8260NGW. The 8260NGW WLAN module was originally certified by INTEL Corporation as a modular approval under FCC ID: PD98260NG. The Snowfield Peak module is an OEM product. The M.2 Wireless LAN Module was tested in the dedicated host – LIFEBOOK T SERIES, Model T726. The system tested will be referred to as the DUT throughout this report.
The Wireless LAN Module incorporates Bluetooth Transmitter, which can only transmit via Antenna B (2), the Bluetooth maximum power was 7dBm (including tune-up) therefore it did not require SAR testing as a stand-alone transmitter. This is in accordance with KDB 447498 section 4.3.1 exemption formula:
The shortest distance between the BT antenna (Antenna 2) and the user is 8mm. The closest distance between WLAN 1 and WLAN2 antennas was 94 mm.

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR Result - [(5.01)/(8mm)] ·[√f(2.45GHz)] = 0.98

For the simultaneous transmission according to the section 4.3.2 the estimated SAR is given by formula:

(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(2.45GHz)/x] W/kg

Result - [(5.01)/(8mm)] ·[√f(GHz)/7.5]=0.13 W/kg.

The highest SAR for the antenna A (1) (WLAN band 5 GHz) was 0.681 mW/g so the sum of the simultaneously transmitting Bluetooth WLAN (Ant. B) was 0.811 mW/g which was below the SAR limit of 1.6mW/g.

The measurement test results mentioned hereon only apply to the 5GHz frequency band; an additional report titled "M150813_FCC_8260NGW_SAR_2.4" applies to the 2450MHz frequency range.

Table 2

Applicable Head Configurations Applicable Body Configurations	: None : Lap Held Position : Edge On Position : Bystander Position

3.0 TEST SAMPLE TECHNICAL INFORMATION

(Information supplied by the client)

3.1 DUT (Radio modules) Details

Radio Modules: WLAN 2x2 IEEE802.11ac/abgn and Bluetooth BT4.1(BDR/EDR/AFH/BLE)
WLAN Model Number: 8260NGW
WLAN Manufacturer: Intel Corp.
Interface Type: M.2 Wireless LAN Module

Transmitter: Mini-Card Wireless LAN Module
FCC ID:
IC:
Wireless Module: WIFINAME (802.11a/b/g/n)
Model Number: 8260NGW
Manufacturer: Intel Corporation
Modulation Type: Direct Sequence Spread Spectrum (DSSS for 802.11b)
Orthogonal Frequency Division Multiplexing (OFDM for 802.11g)
Orthogonal Frequency Division Multiplexing (OFDM for 802.11a)
Orthogonal Frequency Division Multiplexing (OFDM for 802.11n)
2.4 GHz (802.11b/g/n): DBPSK, DQPSK, CCK, 16QAM and 64QAM
5 GHz (802.11a/n): BPSK, QPSK, 16QAM and 64QAM
Maximum Data Rate: 802.11b = 11Mbps, 802.11g and 802.11a = 54Mbps
802.11n = 300 Mbps
Frequency Ranges: 2.412 –2.462 GHz for 11b/g/n
5.18 - 5.825 GHz for 11a/n
Number of Channels: 11 channels **(OR 13 EU)** for 11b/g/n
13 channels **(OR 15 EU)** for 11a/n with 20 MHz bandwidth
6 channels for 11n with 40 MHz bandwidth
Antenna Types: Tx: Yokowo Monopole Antenna - Model: CP335166
Location: Top edge of LCD screen
Rx: Yokowo Monopole Antenna - Model: CP335176-02
Power Supply: 3.3 VDC from PCI bus

Table 3 Channels and Output power setting

2.4 GHz (802.11b, 802.11g and 802.11n/ac)

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Tx BW (MHz)	Average Power Target (dBm)			Power Control		Average Power Measured (dBm)	
					Ch A		Ch B	Power Control Tx A	Power Control Tx B	Tx A	Tx B
802.11b 2.4 GHz	1	2412	CCK 1	20MHz 99%DC				15.375	15.500	15.01	15.05
	6	2437						15.375	15.375	15.07	15.01
	7	2442			15.0		15.0	15.250	15.625	15.01	15.05
	11	2462									
	12	2467						15.250	15.125	15.01	15.07
	13	2472			12.0		10.0	12.375	10.125	12.01	10.02
802.11g 2.4 GHz	1	2412	OFDM 6	20MHz 99%DC							
	2	2417									
	6	2437			15.0		15.0				
	10	2457									
	11	2462									
	12	2467			13.5		13.5				
	13	2472			2.0		1.0				

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Tx BW (MHz)	Ch A		Ch B	Power Control Tx A	Power Control Tx B	Average Power Measured Tx A	Average Power Measured Tx B
802.11n 2.4 GHz	3F	2422						**15.250**	**15.375**	15.04	15.04
	4F	2427									
	5F	2432									
	6F	2437	CCK HT0	40 98%DC	15.0		15.0	**15.250**	**15.375**	15.06	15.09
	7F	2442						**15.250**	**15.250**	15.08	15.02
	8F	2447									
	9F	2452									
	10F	2457						**15.250**	**15.375**	15.09	15.01
	11F	2462			**12.0**		**10.0**				
	3F	2422			**14.0**		**15.0**				
	4F	2427									
	5F	2432									
	6F	2437									
	7F	2442	OFDM HT0	40 98%DC	**15.0**		**15.0**				
	8F	2447									
	9F	2452									
	10F	2457			**12.5**		**12.5**				
	11F	2462			**1.0**		**0.0**				

5 GHz (802.11a)

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Tx BW (MHz)	Average Power Target (dBm) Ch A		Average Power Target (dBm) Ch B	Power Control Tx A	Power Control Tx B	Average Power Measured (dBm) Tx A	Average Power Measured (dBm) Tx B
802.11a	**5.2 GHz**		OFDM 6	20 99%DC							
	36	5180									
	40	5200			**13.5**		**13.5**				
	44	5220									
	48	5240									
	5.3 GHz										
	52	5260									
	56	5280			**13.5**		**13.5**				
	60	5300									
	64	5320									
	5.6 GHz										
	100	5500									
	104	5520									
	108	5540									
	112	5560									
	116	5580									
	120	5600			**13.5**		**13.5**				
	124	5620									
	128	5640									
	5.65 to 5.835 GHz: 132	5660									
	136	5680									
	140	5700									
	5.8 GHz										
	149	5745									
	153	5765									
	157	5785			**13.5**		**13.5**				
	161	5805									
	165	5825									

5 GHz (802.11n)

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Tx BW (MHz)	Average Power Target (dBm) Ch A	Average Power Target (dBm) Ch B	Power Control Tx A	Power Control Tx B	Average Power Measured (dBm) Tx A	Average Power Measured (dBm) Tx B
802.11n	**5.2 GHz**		OFDM HT0	20 99%DC						
	36	5180			13.5	13.5				
	40	5200								
	44	5220								
	48	5240								
	5.3 GHz									
	52	5260			13.5	13.5				
	56	5280								
	60	5300			13.5		**13.250**		13.50	
	64	5320			13.5		**13.125**		13.57	
	5.6 GHz									
	100	5500			13.5	13.5	**13.750**	**13.375**	13.53	13.54
	104	5520								
	108	5540								
	112	5560								
	116	5580								
	120	5600					**13.875**	**13.375**	13.50	13.53
	124	5620								
	128	5640								
	5.65 to 5.835 GHz: 132	5660								
	136	5680								
	140	5700					**13.375**	**13.500**	13.54	13.53
	5.8 GHz									
	149	5745			13.5	13.5				
	153	5765								
	157	5785								
	161	5805								
	165	5825								
	5.2 GHz									
	38	5190		40 98%DC	13.5	13.5				
	46	5230								
	5.3 GHz									
	54	5270			13.5	13.5	**13.750**	**13.625**	13.56	13.57
	62	5310			13.0	13.5		**13.500**		13.58
	5.6 GHz									
	102	5510			13.5	13.5	**13.625**	**13.375**	13.50	13.59
	110	5550			13.5		**13.375**	**13.500**	13.57	13.60
	118	5590			13.5					
	126	5630								
	5.65 to 5.835 GHz: 134	5670								
	142	5710								
	5.8 GHz									
	151	5755			13.5	13.5				
	159	5795								

5 GHz (802.11ac)

Mode	Channel	Frequency (MHz)	Data Rate (Mbps)	Tx BW (MHz)	Average Power Target (dBm) Ch A		Average Power Target (dBm) Ch B	Power Control Tx A	Power Control Tx B	Average Power Measured (dBm) Tx A	Average Power Measured (dBm) Tx B
802.11 ac	5.2 GHz		HT0	80 95%DC							
	42	5210			13.5		13.5	13.625	13.875	13.53	13.58
	5.3 GHz										
	58	5290			12.0		10.0				
	5.6 GHz										
	106	5530			13.0		13.5		13.625	13.05	13.52
	122	5610			13.5		13.5	13.875	13.500	13.52	13.56
	5.65 to 5.835 GHz: 138	5690			13.5		13.5	13.500	13.500	13.50	13.61
	5.8 GHz										
	155	5775			13.5		13.5	13.875	13.625	13.57	13.59

NOTE: For 5GHz SAR results refer to report titled “M150813_FCC_8260NGW_SAR_5.6”.

Table 4 Frequency allocation

Channel Number	Frequency (MHz)	Bluetooth power
1	**2402**	7 dBm
2	2403	
-	-	
39	2440	
40	**2441**	
41	2442	
-	-	
78	2479	
79	**2480**	

3.2 DUT (Notebook PC) Details

Host notebook :	LIFEBOOK T series
Model Name:	T726
Serial Number:	Pre-production Sample
Manufacturer:	FUJITSU LIMITED
CPU Type and Speed:	Core i7 2.6GHz
LCD	12.5"HD+(1366x768) : LP125WH2
Graphics chip	Non
Wired LAN:	Intel 219LM : 10 Base-T/100 Base-TX/1000Base-T
Modem:	Non
Port Replicator Model:	***FPCPR231***

AC Adapter Model:	90W: A13-090P1A(Chicony), A13-090P2A (Chicony) ADP-90BE D(Delta), ADP-90BE C(Delta) 80W: ADP-80SB A(Delta), ADP-80SB B(Delta) 65W:PC only ADP-65MD B(Delta), ADP-65MD C(Delta) A13-065N2A(Chicony), A13-065N3A(Chicony)
Voltage:	19 V
Current Specs:	4.74A / 4.22A / 3.42A
Watts:	90W / 80W / 65W
Battery type	Li-ion
Brand	FUJITSU
Manufacturer	Samsung
Rating	6400mAh, 11.25Vdc, 72Wh

3.3 Test sample Accessories

3.3.1 Battery Types

One type of Fujitsu Lithium Ion battery is used to power the DUT.

Table 5 Battery Details

Model	FPCBP446
V/mAh	6400mAh, 11.25V

4.0 TEST SIGNAL, FREQUENCY AND OUTPUT POWER

INTEL's DRTU test tool was used to configure the WLAN for testing. The DUT Wireless LAN operates in 2 modes, OFDM and DSSS. For the SAR measurements the DUT was operating in continuous transmit mode using programming codes supplied by Fujitsu.

The test results mentioned in this report only apply to the 5.6 GHz frequency range. An additional report titled *"M150813_FCC_8260NGW_SAR_2.4"* is specific to the 2450MHz range.

The DUT is capable of using two antennas transmitting simultaneously the power level is 3dB lower (50%) than if a single antenna was transmitting, There were no wires or other connections to the DUT during the SAR measurements.

At the beginning of the SAR tests, the conducted power of the device was measured after temporary modification of antenna connector inside the device's TX RX compartment. Measurements were performed with a calibrated Power Meter, and the results of the measurements include the tune up tolerance of 1 dB. The Transmitter power was set to be equal or higher than power specified by the manufacturer including tune-up.

Table 6 Frequency and Conducted Power Results Bluetooth

Channel	Channel Frequency MHz	Data Rate (Mbps)	Maximum Conducted Output Power Measured (dBm)
Channel 40	2441	N/A	6.4

4.1 Battery Status

The DUT battery was fully charged prior to commencement of measurement. The battery condition was monitored by measuring the RF field at a defined position inside the phantom before the commencement of each test and again after the completion of the test. It was not possible to perform conducted power measurements at the output of the DUT, at the beginning and end of each scan due to lack of a suitable antenna port. The uncertainty associated with the power drift was less than 5% and was assessed in the uncertainty budget.

5.0 DETAILS OF TEST LABORATORY

5.1 Location

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5.2 Accreditations

EMC Technologies Pty. Ltd. is accredited by the National Association of Testing Authorities, Australia (NATA).
NATA Accredited Laboratory Number: 5292

EMC Technologies Pty Ltd is NATA accredited for the following standards:

AS/NZS 2772.2 2011:	RF and microwave radiation hazard measurement
ACMA:	Radio communications (Electromagnetic Radiation - Human Exposure) Standard 2014
EN 50360: 2001	Product standard to demonstrate the compliance of Mobile Phones with the basic restrictions related to human exposure to electromagnetic fields (300 MHz – 3 GHz)
EN 62209-1:2006	Human exposure to radio frequency fields from hand-held and body-mounted devices-Human models, instrumentation and procedures. **Part 1:** Procedure to determine the specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range 300 MHz to 3 GHz)
EN 62209-2:2010	Human Exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Human models instrumentation and procedures **Part 2:** Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz
IEEE 1528: 2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head Due to Wireless Communications Devices: Measurement Techniques.

Refer to NATA website www.nata.asn.au for the full scope of accreditation.

5.3 Environmental Factors

The measurements were performed in a shielded room with no background RF signals. The temperature in the laboratory was controlled to within 21±1°C, the humidity was in the range 36% to 38%. The liquid parameters are measured daily prior to the commencement of each test. Tests were performed to check that reflections within the environment did not influence the SAR measurements. DASY5 SAR measurement system using either the EX3DV4 or ET3DV6 E-field probe is less than 5μV in both air and liquid mediums.

6.0 CALIBRATION AND VERIFICATION PROCEDURES AND DATA

6.1 System verification

6.1.1 System verification Results @ 5GHz

The following table lists the results of the System Verification. The forward power into the reference dipole for SAR System Verification was adjusted to 100 mW.

The SPEAG calibration reference SAR value is the SAR system verification result obtained in a specific dielectric liquid using the validation dipole (D5GHzV2) during calibration. The measured one-gram SAR should be within 10% of the expected target reference values shown in below.

Table 7 Deviation from reference system verification values in 5.6 GHz band

Frequency and Date	Measured SAR 1g (mW/g)	Measured SAR 1g (Normalized to 1W)	SPEAG Calibration reference SAR Value 1g (mW/g)	Deviation From SPEAG Reference 1g (%)	Last Validation Date
5200MHz 7th Sept. 2015	7.83	78.30	75.1	4.26	22/05/2015
5600MHz 8th Sept. 2015	8.14	81.40	81.3	0.12	25/05/2015
5600MHz 9th Sept. 2015	8.55	85.50	81.3	5.17	25/05/2015
5800MHz 10th Sept. 2015	8.4	84.00	76.7	9.52	27/05/2015

NOTE: All reference system verification values are referenced to 1W input power.

6.1.2 Liquid Temperature and Humidity

The humidity and dielectric/ambient temperatures were recorded during the assessment of the tissue material dielectric parameters. The difference between the ambient temperature of the liquid during the dielectric measurement and the temperature during tests was less than |2|°C.

Table 8 Temperature and Humidity recorded for each day

Date	Ambient Temperature (°C)	Liquid Temperature (°C)	Humidity (%)
7th Sept. 2015	21.8	21.5	38
8th Sept. 2015	21.3	21.0	36
9th Sept. 2015	21.6	21.4	37
10th Sept. 2015	21.0	20.9	38

7.0 SAR MEASUREMENT PROCEDURE USING DASY5

The SAR evaluation was performed with the SPEAG DASY5 system. A summary of the procedure follows:

a) A measurement of the SAR value at a fixed location is used as a reference value for assessing the power drop of the DUT. The SAR at this point is measured at the start of the test, and then again at the end of the test.

b) The SAR distribution at the exposed flat section of the flat phantom is measured at a distance of 2.0 mm from the inner surface of the shell. The area covers the entire dimension of the DUT and the horizontal grid spacing is 10 mm x 10 mm. The actual Area Scan has dimensions of 60mm x 90mm surrounding the test device. Based on this data, the area of the maximum absorption is determined by Spline interpolation.

c) Around this point, a volume of 24 mm x 24 mm x 22 mm is assessed by measuring 7 x 7 x 12 points. On the basis of this data set, the spatial peak SAR value is evaluated with the following procedure:

   (i) The data at the surface are extrapolated, since the centre of the dipoles is 1.0 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 2.0 mm. The extrapolation is based on a least square algorithm. A polynomial of the fourth order is calculated through the points in z-axes. This polynomial is then used to evaluate the points between the surface and the probe tip.

   (ii) The maximum interpolated value is searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g and 10 g) are computed using the 3D-Spline interpolation algorithm. The 3D-Spline is composed of three one-dimensional splines with the "Not a knot"- condition (in x, y and z-direction). The volume is integrated with the trapezoidal – algorithm. One thousand points (10 x 10 x 10) are interpolated to calculate the averages.

   (iii) All neighbouring volumes are evaluated until no neighbouring volume with a higher average value is found.

   (iv) The SAR value at the same location as in Step (a) is again measured to evaluate the actual power drift.

8.0 MEASUREMENT UNCERTAINTY

The uncertainty analysis is based on the template listed in the IEEE Std 1528-2013 for both device SAR tests and Validation uncertainty. The measurement uncertainty of a specific device is evaluated independently.

Table 9 Uncertainty Budget for DASY5 Version 52 – DUT SAR test 5GHz

Error Description	Uncert. Value	Prob. Dist.	Div.	C_i (1g)	C_i (10g)	1g u_i	10g u_i	v_i
Measurement System								
Probe Calibration	6.55	N	1.00	1	1	6.55	6.55	∞
Axial Isotropy	4.7	R	1.73	0.7	0.7	1.90	1.90	∞
Hemispherical Isotropy	9.6	R	1.73	0.7	0.7	3.88	3.88	∞
Boundary Effects	2	R	1.73	1	1	1.15	1.15	∞
Linearity	4.7	R	1.73	1	1	2.71	2.71	∞
System Detection Limits	1	R	1.73	1	1	0.58	0.58	∞
Modulation response	2.4	R	1.73	1	1	1.39	1.39	∞
Readout Electronics	0.3	N	1.00	1	1	0.30	0.30	∞
Response Time	0.8	R	1.73	1	1	0.46	0.46	∞
Integration Time	2.6	R	1.73	1	1	1.50	1.50	∞
RF Ambient Noise	3	R	1.73	1	1	1.73	1.73	∞
RF Ambient Reflections	3	R	1.73	1	1	1.73	1.73	∞
Probe Positioner	0.8	R	1.73	1	1	0.46	0.46	∞
Probe Positioning	6.7	R	1.73	1	1	3.87	3.87	∞
Post Processing	4	R	1.73	1	1	2.31	2.31	∞
Test Sample Related								
Power Scaling	0	R	1.73	1	1	0.00	0.00	∞
Test Sample Positioning	2.9	N	1.00	1	1	2.90	2.90	145
Device Holder Uncertainty	3.6	N	1.00	1	1	3.60	3.60	5
Output Power Variation – SAR Drift Measurement	4.72	R	1.73	1	1	2.73	2.73	∞
Phantom and Setup								
Phantom Uncertainty	7.6	R	1.73	1	1	4.39	4.39	∞
Liquid Conductivity – Deviation from target values	5	R	1.73	0.64	0.43	1.85	1.24	∞
Liquid Permittivity – Deviation from target values	5	R	1.73	0.6	0.49	1.73	1.41	∞
Liquid Conductivity – Measurement uncertainty	2.5	N	1.00	0.64	0.71	1.60	1.78	∞
Liquid Permittivity – Measurement uncertainty	2.5	N	1.00	0.6	0.26	1.50	0.65	∞
Temp.unc. - Conductivity	3.4	R	1.73	0.78	0.71	0.77	0.70	∞
Temp. unc. - Permittivity	0.4	R	1.73	0.23	0.26	0.04	0.05	∞
Combined standard Uncertainty (u_c)						12.71	12.54	
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=	2		25.41	25.08	

Estimated total measurement uncertainty for the DASY5 measurement system was ±12.71%. The extended uncertainty (K = 2) was assessed to be ±25.41% based on 95% confidence level. The uncertainty is not added to the measurement result.

Table 10 Uncertainty Budget for DASY5 Version 52 – DUT SAR test 2450MHz

IEC 62209-2 UNCERTAINTY FOR RSS-102

Error Description	Uncert. Value	Prob. Dist.	Div.	C_i (1g)	C_i (10g)	1g u_i	10g u_i	v_i
Measurement System								
Probe Calibration	6.55	N	1.00	1	1	6.55	6.55	∞
Axial Isotropy	4.7	R	1.73	0.7	0.7	1.90	1.90	∞
Hemispherical Isotropy	9.6	R	1.73	0.7	0.7	3.88	3.88	∞
Boundary Effects	2	R	1.73	1	1	1.15	1.15	∞
Linearity	4.7	R	1.73	1	1	2.71	2.71	∞
System Detection Limits	1	R	1.73	1	1	0.58	0.58	∞
Modulation response	2.4	R	1.73	1	1	1.39	1.39	∞
Readout Electronics	0.3	N	1.00	1	1	0.30	0.30	∞
Response Time	0.8	R	1.73	1	1	0.46	0.46	∞
Integration Time	2.6	R	1.73	1	1	1.50	1.50	∞
RF Ambient Noise	3	R	1.73	1	1	1.73	1.73	∞
RF Ambient Reflections	3	R	1.73	1	1	1.73	1.73	∞
Probe Positioner	0.8	R	1.73	1	1	0.46	0.46	∞
Probe Positioning	6.7	R	1.73	1	1	3.87	3.87	∞
Post Processing	4	R	1.73	1	1	2.31	2.31	∞
Test Sample Related								
Power Scaling	0	R	1.73	1	1	0.00	0.00	∞
Test Sample Positioning	2.9	N	1.00	1	1	2.90	2.90	145
Device Holder Uncertainty	3.6	N	1.00	1	1	3.60	3.60	∞
Output Power Variation – SAR Drift Measurement	4.72	R	1.73	1	1	2.73	2.73	∞
Phantom and Setup								
Phantom Uncertainty	7.6	R	1.73	1	1	4.39	4.39	∞
Liquid Conductivity – Deviation from target values	5	R	1.73	0.64	0.43	1.85	1.24	∞
Liquid Permittivity – Deviation from target values	5	R	1.73	0.6	0.49	1.73	1.41	∞
Liquid Conductivity – Measurement uncertainty	2.5	N	1.00	0.78	0.71	1.95	1.78	∞
Liquid Permittivity – Measurement uncertainty	2.5	N	1.00	0.6	0.49	1.50	1.23	∞
Temp.unc. - Conductivity	3.4	R	1.73	0.78	0.71	1.53	1.39	∞
Temp. unc. - Permittivity	0.4	R	1.73	0.23	0.26	0.05	0.06	∞
Combined standard Uncertainty (u_c)						12.82	12.64	
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=	2		25.65	25.28	

Estimated total measurement uncertainty for the DASY5 measurement system was ±12.82%. The extended uncertainty (K = 2) was assessed to be ±25.65% based on 95% confidence level. The uncertainty is not added to the measurement result.

Table 11 Uncertainty Budget for DASY5 Version 52 – System verification 5GHz

Error Description	Uncert. Value	Prob. Dist.	Div.	C_i (1g)	C_i (10g)	1g u_i	10g u_i	v_i
Measurement System								
Probe Calibration	6.55	N	1.00	1	1	6.55	6.55	∞
Axial Isotropy	4.7	R	1.73	1	1	2.71	2.71	∞
Hemispherical Isotropy	9.6	R	1.73	0	0	0.00	0.00	∞
Boundary Effects	1	R	1.73	1	1	0.58	0.58	∞
Linearity	4.7	R	1.73	1	1	2.71	2.71	∞
System Detection Limits	1	R	1.73	1	1	0.58	0.58	∞
Modulation response	0	R	1.73	1	1	0.00	0.00	∞
Readout Electronics	0.3	N	1.00	1	1	0.30	0.30	∞
Response Time	0	R	1.73	1	1	0.00	0.00	∞
Integration Time	0	R	1.73	1	1	0.00	0.00	∞
RF Ambient Noise	1	R	1.73	1	1	0.58	0.58	∞
RF Ambient Reflections	1	R	1.73	1	1	0.58	0.58	∞
Probe Positioner	0.8	R	1.73	1	1	0.46	0.46	∞
Probe Positioning	6.7	R	1.73	1	1	3.87	3.87	∞
Post Processing	2	R	1.73	1	1	1.15	1.15	∞
Dipole Related								
Deviation of exp. dipole	5.5	R	1.73	1	1	3.18	3.18	∞
Dipole Axis to Liquid Dist.	2	R	1.73	1	1	1.15	1.15	∞
Input power & SAR drift	3.40	R	1.73	1	1	1.96	1.96	∞
Phantom and Setup								
Phantom Uncertainty	4	R	1.73	1	1	2.31	2.31	∞
Liquid Conductivity – Deviation from target values	5	R	1.73	0.64	0.43	1.85	1.24	∞
Liquid Permittivity – Deviation from target values	5	R	1.73	0.6	0.49	1.73	1.41	∞
Liquid Conductivity – Measurement uncertainty	2.5	N	1.00	0.78	0.71	1.95	1.78	∞
Liquid Permittivity – Measurement uncertainty	2.5	N	1.00	0.26	0.26	0.65	0.65	∞
Temp.unc. - Conductivity	3.4	R	1.73	0.78	0.71	0.77	0.70	∞
Temp. unc. - Permittivity	0.4	R	1.73	0.23	0.26	0.04	0.05	∞
Combined standard Uncertainty (u_c)						10.36	10.19	
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=	2		20.73	20.37	

Estimated total measurement uncertainty for the DASY5 measurement system was ±10.36%. The extended uncertainty (K = 2) was assessed to be ±20.73% based on 95% confidence level. The uncertainty is not added to the measurement result.

9.0 EQUIPMENT LIST AND CALIBRATION DETAILS

Table 12 SPEAG DASY5 Version 52

Equipment Type	Manufacturer	Model Number	Serial Number	Calibration Due	Used For this Test?
Robot - Six Axes	Staubli	RX90BL	N/A	Not applicable	✓
Robot Remote Control	SPEAG	CS7MB	RX90B	Not applicable	✓
SAM Phantom	SPEAG	N/A	1260	Not applicable	
SAM Phantom	SPEAG	N/A	1060	Not applicable	
Flat Phantom	AndreT	10.1	P 10.1	Not Applicable	
Flat Phantom	AndreT	9.1	P 9.1	Not Applicable	
Flat Phantom	SPEAG	ELI 4.0	1101	Not Applicable	✓
Data Acquisition Electronics	SPEAG	DAE3 V1	359	04-June-2016	
Data Acquisition Electronics	SPEAG	DAE3 V1	442	03-Dec-2015	✓
Probe E-Field - Dummy	SPEAG	DP1	N/A	Not applicable	
Probe E-Field	SPEAG	ET3DV6	1380	11-Dec-2015	
Probe E-Field	SPEAG	ET3DV6	1377	11-June-2016	
Probe E-Field	SPEAG	ES3DV6	3029	Not Used	
Probe E-Field	SPEAG	EX3DV4	3956	15-June-2016	
Probe E-Field	SPEAG	EX3DV4	7358	21- April-2016	✓
Validation Source 150 MHz	SPEAG	CLA150	4003	3-Dec-2016	
Antenna Dipole 300 MHz	SPEAG	D300V3	1012	11-Dec-2015	
Antenna Dipole 450 MHz	SPEAG	D450V3	1074	11-Dec-2015	
Antenna Dipole 750 MHz	SPEAG	D750V2	1051	13-Dec-2016	
Antenna Dipole 900 MHz	SPEAG	D900V2	047	09-Dec-2017	
Antenna Dipole 1640 MHz	SPEAG	D1640V2	314	05-Dec-2017	
Antenna Dipole 1800 MHz	SPEAG	D1800V2	242	05-Dec-2017	
Antenna Dipole 1950 MHz	SPEAG	D1950V3	1113	6-Dec -2015	
Antenna Dipole 2300 MHz	SPEAG	D2300V2	1032	22-Aug-2016	
Antenna Dipole 2450 MHz	SPEAG	D2450V2	724	04-Dec-2015	
Antenna Dipole 2600 MHz	SPEAG	D2600V2	1044	13-Dec-2016	
Antenna Dipole 3500 MHz	SPEAG	D3500V2	1002	13-July-2013	
Antenna Dipole 5600 MHz	SPEAG	D5GHzV2	1008	16-Dec-2016	✓
RF Amplifier	EIN	603L	N/A	*In test	
RF Amplifier	Mini-Circuits	ZHL-42	N/A	*In test	
RF Amplifier	Mini-Circuits	ZVE-8G	N/A	*In test	✓
Synthesized signal generator	Hewlett Packard	86630A	3250A00328	*In test	✓
RF Power Meter	Hewlett Packard	437B	3125012786	*In test	✓
RF Power Sensor 0.01 - 18 GHz	Hewlett Packard	E9327A	MY44420176	15-Jan-2016	✓
RF Power Meter	Rohde & Schwarz	NRP	101415	30-Sept-2015	
RF Power Sensor	Rohde & Schwarz	NRP - Z81	100174	30-Sept-2015	
RF Power Meter Dual	Hewlett Packard	435A	1733A05847	*In test	✓
RF Power Sensor	Hewlett Packard	8482A	2349A10114	*In test	✓
Network Analyser	Hewlett Packard	8714B	GB3510035	14-Oct-2015	
Network Analyser	Hewlett Packard	8753ES	JP39240130	10-Nov-2015	
Network Analyser	Hewlett Packard	8753D	3410A04122	28-Jan-2016	✓
Dual Directional Coupler	Hewlett Packard	778D	1144 04700	*In test	
Dual Directional Coupler	NARDA	3022	75453	*In test	✓
Thermometer	Digitech	QM7217	T-103	29-Aug-2015	
Thermometer	Digitech	QM7217	T-104	15-Dec-2015	✓
Radio Communication Test Set	Rohde & Schwarz	CMU200	101573	Not Applicable	
Radio Communication Test Set	Anritsu	MT8820A	6200240559	Not Applicable	
Radio Communication Test Set	Agilent	PXT E6621A	MY51100168	Not Applicable	

* Calibrated during the test for the relevant parameters.

10.0 TEST METHODOLOGY

Notebooks should be evaluated in normal use positions, typical for lap-held bottom-face only. However the number of positions will depend on the number of configurations the laptop can be operated in. The “T SERIES LIFEBOOK” can be used in either a conventional laptop position (see Appendix A) or a Tablet configuration. The antenna location in the “T SERIES LIFEBOOK” is closest to the top of the screen when used in a conventional laptop configuration and due to the separation distances involved between the phantom and the laptop antenna, testing is not required in this position.

10.1 Position

10.1.1 “Lap Held” Position Definition (0mm spacing)

The DUT was tested in the 2.00 mm flat section of the ELI4 Flat phantom for the “Lap Held” position. The Transceiver was placed at the bottom of the phantom and suspended in such way that the back of the DUT was touching the phantom. This device orientation simulates the PC’s normal use – being held on the lap of the user. A spacing of 0mm ensures that the SAR results are conservative and represent a worst-case position.

10.1.2 “Edge On” Position (Portrait or Landscape)

The DUT was tested in the (2.00 mm) flat section of the ELI4 Flat phantom for the “Edge On” position. The Antenna edge of the Transceiver was placed underneath the flat section of the phantom and suspended until the edge touched the phantom. *Refer to Appendix A for photos of measurement positions.*

10.1.3 “Bystander” Position (25mm spacing)

The DUT was tested in the 2.00 mm flat section of the ELI4 Flat phantom for the “Bystander” position. The Transceiver was placed at the bottom of the phantom and suspended in such way that the back of it’s LCD screen was parallel to phantom and at 25mm distance. This orientation simulates use of the device in a way that allows occasional RF exposure of the nearby person (Bystander).

10.2 List of All Test Cases (Antenna In/Out, Test Frequencies, User Modes)

The DUT has fixed antennas. Depending on the measured SAR level up to three test channels with the test sample operating at maximum power were recorded. The following table represents the matrix used to determine what testing was required. All relevant provisions of KDB 447498 and KDB 616217 are applied for SAR measurements of the host system.

Table 13 Testing configurations

Phantom Configuration	*Device Mode	Antenna	Test Configurations		
			Channel (Remaining)	Channel (Highest)	Channel (Remaining)
Lap Held	OFDM 5GHz All Bands	A		X	
		B		X	
Bystander	OFDM 5GHz All Bands	A		X	
		B		X	
Edge On	OFDM 5GHz All Bands	A		X	
		B		X	

Legend

X (blue)	Testing Required in this configuration
(green)	Testing required in this configuration only if SAR of middle channel is more than 3dB below the SAR limit or it is the worst case.

NOTE: Throughout this report, Antenna A, and B refer to Tx1, and Tx2 in the host respectively.

11.0 SAR MEASUREMENT RESULTS

The SAR values averaged over 1g tissue masses were determined for the sample DUT for all test configurations listed in section 10.2.

11.1 5GHz Band SAR Results

Table 14 SAR MEASUREMENT RESULTS Lower Band – OFDM Mode

Test Position	Plot No.	Test Mode	Test Ch.	Test Freq. (MHz)	SAR (1g) mW/g	Drift (dB)	∈r (target 48.9 ±5% (46.46 to 51.35)	σ (target 5.4 ±5% (5.13 to 5.67)	100% Duty Cycle SAR (mW/g)
Body Bystander ANT 1 (OFDM) 07-Sep-2015	1.	OFDM 5 GHz HT0 (20 MHz)	60	5300	0.0078	0.18	48.01	5.398	0.008
Body Bystander ANT 2 (OFDM) 07-Sep-2015	2.	OFDM 5 GHz HT0 (40 MHz)	54	5270	0.0211	-0.17	48.09	5.338	0.022
Test Position	**Plot No.**	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 49.0 ±5% 46.55 to 51.45)**	**σ (target 5.3 ±5% 5.04 to 5.57)**	**100% Duty Cycle SAR (mW/g)**
Body Lap Held ANT 2 (OFDM) 07-Sep-2015	3.	OFDM 5 GHz HT0 (80 MHz)	42	5210	0.0144	0.15	48.3	5.22	0.015
Test Position	**Plot No.**	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 48.9 ±5% (46.46 to 51.35)**	**σ (target 5.4 ±5% (5.13 to 5.67)**	**100% Duty Cycle SAR (mW/g)**
Body Lap Held ANT 2 (OFDM) 07-Sep-2015	4.	OFDM 5 GHz HT0 (40 MHz)	54	5270	0.0127	-0.21	48.09	5.338	0.013
Body Lap Held ANT 2 (OFDM) 07-Sep-2015	5.	OFDM 5 GHz HT0 (40 MHz)	62	5310	0.0157	0.21	47.98	5.413	0.016
Body Lap Held ANT 1 (OFDM) 07-Sep-2015	6.	OFDM 5 GHz HT0 (20 MHz)	60	5300	0.149	-0.01	48.01	5.398	0.151
Test Position	**Plot No.**	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 49.0 ±5% 46.55 to 51.45)**	**σ (target 5.3 ±5% 5.04 to 5.57)**	**100% Duty Cycle SAR (mW/g)**
Edge 1 ANT 2 (OFDM) 07-Aug-2015	7.	OFDM 5 GHz HT0 (80 MHz)	42	5210	0.558	-0.09	48.3	5.22	0.587
Test Position	**Plot No.**	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 48.9 ±5% (46.46 to 51.35)**	**σ (target 5.4 ±5% (5.13 to 5.67)**	**100% Duty Cycle SAR (mW/g)**
Edge 1 ANT 2 (OFDM) 07-Aug-2015	8.	OFDM 5 GHz HT0 (40 MHz)	54	5270	0.508	-0.19	48.09	5.338	0.518
Edge 1 ANT 2 (OFDM) 07-Aug-2015	9.	OFDM 5 GHz HT0 (40 MHz)	62	5310	0.566	-0.1	47.98	5.413	0.578
Test Position	**Plot No.**	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 49.0 ±5% 46.55 to 51.45)**	**σ (target 5.3 ±5% 5.04 to 5.57)**	**100% Duty Cycle SAR (mW/g)**
Edge 1 ANT 1 (OFDM) 07-Aug-2015	10.	OFDM 5 GHz HT0 (80 MHz)	42	5210	0.627	-0.16	48.3	5.22	0.660
Test Position	**Plot No.**	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 48.9 ±5% (46.46 to 51.35)**	**σ (target 5.4 ±5% (5.13 to 5.67)**	**100% Duty Cycle SAR (mW/g)**
Edge 1 ANT 1 (OFDM) 07-Aug-2015	11.	OFDM 5 GHz HT0 (40 MHz)	54	5270	0.626	-0.09	48.09	5.338	0.639
Edge 1 ANT 1 (OFDM) 07-Aug-2015	12.	OFDM 5 GHz HT0 (20 MHz)	60	5300	0.615	-0.2	48.01	5.398	0.621
Edge 1 ANT 1 (OFDM) 07-Aug-2015	13.	OFDM 5 GHz HT0 (20 MHz)	64	5320	0.625	-0.19	47.93	5.438	0.631
Edge 2 ANT 2 (OFDM) 07-Aug-2015	-	OFDM 5 GHz HT0 (40 MHz)	54	5270	Noise Floor	N/A	48.09	5.338	N/A
Edge 4 ANT 1 (OFDM) 07-Aug-2015	14.	OFDM 5 GHz HT0 (20 MHz)	60	5300	0.0706	-0.19	48.01	5.398	0.071
Edge 4 ANT 2 (OFDM) 07-Aug-2015	-	OFDM 5 GHz HT0 (40 MHz)	54	5270	Noise Floor	N/A	48.09	5.338	N/A

Test Position	Plot No.	Test Mode	Test Ch.	Test Freq. (MHz)	SAR (1g) mW/g	Drift (dB)	∈r (target 49.0 ±5% 46.55 to 51.45)	σ (target 5.3 ±5% 5.04 to 5.57)	
System Performance Check with D5GHzV2 Dipole 07-Sep-2015	15.	CW	0	5200	7.83	-0.03	48.33	5.203	N/A

NOTE: The measurement uncertainty of 25.41% for 5GHz testing is not added to the result.

Table 15 SAR MEASUREMENT RESULTS Middle Band – OFDM Mode

Test Position	Plot No.	Test Mode	Test Ch.	Test Freq. (MHz)	SAR (1g) mW/g	Drift (dB)	∈r (target 48.5 ±5% 46.08 to 50.93)	σ (target 5.77 ±5% 5.48 to 6.06)	100% Duty Cycle SAR (mW/g)
Body Bystander ANT 1 (OFDM) 08-Sept-2015	16.	OFDM 5 GHz HT0 (40 MHz)	110	5550	0.0273	0.03	47.12	5.882	0.028
Body Bystander ANT 2 (OFDM) 08-Sept-2015	17.	OFDM 5 GHz HT0 (80 MHz)	122	5610	0.0353	-0.18	46.92	5.976	0.037
Test Position	**Plot No.**	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 48.6 ±5% 46.17 to 51.03)**	**σ (target 5.6 ±5% 5.32 to 5.88)**	**100% Duty Cycle SAR (mW/g)**
Body Lap Held ANT 2 (OFDM) 08-Sept-2015	18.	OFDM 5 GHz HT0 (80 MHz)	106	5530	0.0216	0.05	47.2	5.844	0.023
Test Position	**Plot No.**	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 48.5 ±5% 46.08 to 50.93)**	**σ (target 5.77 ±5% 5.48 to 6.06)**	**100% Duty Cycle SAR (mW/g)**
Body Lap Held ANT 2 (OFDM) 08-Sept-2015	19.	OFDM 5 GHz HT0 (80 MHz)	122	5610	0.0284	0.12	46.92	5.976	0.030
Body Lap Held ANT 1 (OFDM) 08-Sept-2015	20.	OFDM 5 GHz HT0 (40 MHz)	110	5550	0.198	0.1	47.12	5.882	0.202
Test Position	**Plot No.**	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 48.6 ±5% 46.17 to 51.03)**	**σ (target 5.6 ±5% 5.32 to 5.88)**	**100% Duty Cycle SAR (mW/g)**
Edge 1 ANT 2 (OFDM) 09-Sept-2015	21.	OFDM 5 GHz HT0 (80 MHz)	106	5530	0.627	-0.15	47.18	5.638	0.660
Test Position	**Plot No.**	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 48.5 ±5% 46.08 to 50.93)**	**σ (target 5.77 ±5% 5.48 to 6.06)**	**100% Duty Cycle SAR (mW/g)**
Edge 1 ANT 2 (OFDM) 09-Sept-2015	22.	OFDM 5 GHz HT0 (80 MHz)	122	5610	0.615	-0.21	46.89	5.784	0.647
Edge 1 ANT 1 (OFDM) 09-Sept-2015	23.	OFDM 5 GHz HT0 (40 MHz)	102	5510	0.585	-0.15	47.25	5.609	0.597
Edge 1 ANT 1 (OFDM) 09-Sept-2015	24.	OFDM 5 GHz HT0 (40 MHz)	110	5550	0.625	0.06	47.13	5.677	0.638
Edge 1 ANT 1 (OFDM) 09-Sept-2015	25.	OFDM 5 GHz HT0 (80 MHz)	122	5610	0.524	-0.13	46.89	5.784	0.552
Edge 2 ANT 2 (OFDM) 09-Sept-2015	-	OFDM 5 GHz HT0 (80 MHz)	122	5610	Noise floor	N/A	46.89	5.784	N/A
Edge 4 ANT 2 (OFDM) 09-Sept-2015	-	OFDM 5 GHz HT0 (80 MHz)	122	5610	Noise floor	N/A	46.89	5.784	N/A
Edge 4 ANT 1 (OFDM) 09-Sept-2015	26.	OFDM 5 GHz HT0 (40 MHz)	110	5550	0.123	-0.11	47.13	5.677	0.126
Test Position	**Plot No.**	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 48.6 ±5% 46.17 to 51.03)**	**σ (target 5.6 ±5% 5.32 to 5.88)**	**100% Duty Cycle SAR (mW/g)**
System Performance Check with D5GHzV2 Dipole 08-Sept-2015	27.	System Check	1	5600	8.14	-0.03	46.94	5.958	N/A
System Performance Check with D5GHzV2 Dipole 09-Sept-2015	28.	System Check	1	5600	8.55	0.02	46.93	5.762	N/A

NOTE: The measurement uncertainty of 25.41% for 5GHz testing is not added to the result.

Table 16 SAR MEASUREMENT RESULTS Upper Band – OFDM Mode

Test Position	Plot No.	Test Mode	Test Ch.	Test Freq. (MHz)	SAR (1g) mW/g	Drift (dB)	∈r (target 48.2 ±5% 45.79 to 50.61)	σ (target 6.0 ±5% 5.7 to 6.3)	100% Duty Cycle SAR (mW/g)
Body Bystander ANT 1 (OFDM) 10-Sept-2015	29.	OFDM 5 GHz HT0 (80 MHz)	155	5775	0.0216	0.1	46.3	6.167	0.023
Body Bystander ANT 2 (OFDM) 10-Sept-2015	30.	OFDM 5 GHz HT0 (80 MHz)	155	5775	0.0226	-0.16	46.3	6.167	0.024
Test Position	**Plot No.**	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 48.3 ±5% 45.89 to 50.72)**	**σ (target 5.9 ±5% 5.61 to 6.20)**	**100% Duty Cycle SAR (mW/g)**
Body Lap Held ANT 2 (OFDM) 10-Sept-2015	31.	OFDM 5 GHz HT0 (80 MHz)	138	5690	0.0264	-0.19	46.56	6.036	0.028
Test Position	**Plot No.**	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 48.2 ±5% 45.79 to 50.61)**	**σ (target 6.0 ±5% 5.7 to 6.3)**	**100% Duty Cycle SAR (mW/g)**
Body Lap Held ANT 2 (OFDM) 10-Sept-2015	32.	OFDM 5 GHz HT0 (80 MHz)	155	5775	0.0193	-0.19	46.3	6.167	0.020
Body Lap Held ANT 1 (OFDM) 10-Sept-2015	33.	OFDM 5 GHz HT0 (80 MHz)	155	5775	0.139	-0.06	46.3	6.167	0.146
Test Position	**Plot** No.	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 48.3 ±5% 45.89 to 50.72)**	**σ (target 5.9 ±5% 5.61 to 6.20)**	**100% Duty Cycle SAR (mW/g)**
Edge 1 ANT 2 (OFDM) 10-Sept-2015	34.	OFDM 5 GHz HT0 (80 MHz)	138	5690	0.578	0.19	46.56	6.036	0.608
Test Position	**Plot No.**	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 48.2 ±5% 45.79 to 50.61)**	**σ (target 6.0 ±5% 5.7 to 6.3)**	**100% Duty Cycle SAR (mW/g)**
Edge 1 ANT 2 (OFDM) 10-Sept-2015	35.	OFDM 5 GHz HT0 (80 MHz)	155	5775	0.492	0.05	46.3	6.167	0.518
Test Position	**Plot** No.	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 48.3 ±5% 45.89 to 50.72)**	**σ (target 5.9 ±5% 5.61 to 6.20)**	**100% Duty Cycle SAR (mW/g)**
Edge 1 ANT 1 (OFDM) 10-Sept-2015	36.	OFDM 5 GHz HT0 (80 MHz)	138	5690	0.647	0.07	46.56	6.036	**0.681**
Test Position	**Plot No.**	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 48.2 ±5% 45.79 to 50.61)**	**σ (target 6.0 ±5% 5.7 to 6.3)**	**100% Duty Cycle SAR (mW/g)**
Edge 1 ANT 1 (OFDM) 10-Sept-2015	37.	OFDM 5 GHz HT0 (80 MHz)	155	5775	0.608	-0.11	46.3	6.167	0.640
Edge 2 ANT 2 (OFDM) 10-Sept-2015	-	OFDM 5 GHz HT0 (80 MHz)	155	5775	Noise Floor	N/A	46.3	6.167	N/A
Edge 4 ANT 2 (OFDM) 10-Sept-2015	-	OFDM 5 GHz HT0 (80 MHz)	155	5775	Noise Floor	N/A	46.3	6.167	N/A
Edge 4 ANT 1 (OFDM) 10-Sept-2015	38.	OFDM 5 GHz HT0 (80 MHz)	155	5775	0.0736	0.15	46.3	6.167	0.077
Test Position	**Plot No.**	**Test Mode**	**Test Ch.**	**Test Freq. (MHz)**	**SAR (1g) mW/g**	**Drift (dB)**	**∈r (target 48.2 ±5% 45.79 to 50.61)**	**σ (target 6.0 ±5% 5.7 to 6.3)**	**100% Duty Cycle SAR (mW/g)**
System Performance Check with D5GHzV2 Dipole 10-Sept-2015	39.	System Check	1	5800	8.04	0.08	46.24	6.205	N/A

NOTE: The measurement uncertainty of 25.41% for 5GHz testing is not added to the result.

12.0 COMPLIANCE STATEMENT

The Fujitsu Convertible PC PC, Model: T726 with INTEL M.2 Wireless LAN and Bluetooth Module (Snowfield Peak 802.11a/b/g/n/ac), Model: 8260NGW, was found to comply with the FCC and RSS-102 SAR requirements.

The highest Measured SAR level of the 5 GHz band was 0.647 mW/g for a 1g cube. The manufacturer's tune up power is stated to be 1dB and was included in RF power setting during measurement. Scaling the SAR value to the 100% Duty Cycle, the maximum Reported SAR value is **0.681 mW/g.** This value was measured at 5698 MHz (channel 138) in the "Edge 1" position in OFDM modulation mode at the antenna 1. This was below the limit of 1.6 mW/g for uncontrolled exposure, even taking into account the measurement uncertainty of 25.41 %.

The SAR test Variability check was not required because the highest measured SAR was less than 0.8 mW/g.

13.0 MULTIBAND EVALUATION CONSIDERATIONS

For the simultaneous transmission Of the Bluetooth according to the section 4.3.2 of the KDB 447498 the estimated SAR is given by formula:

(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(2.45GHz)/x] W/kg

Result - [(5.01)/(8mm)] ·[√f(GHz)/7.5]=0.13 W/kg.

The highest SAR for the WLAN Antenna 1 was 0.681 mW/g so the sum of the simultaneously transmitting Bluetooth (Antenna 2) and the WLAN Antenna 1 was 0.811 mW/g which was below the SAR limit of 1.6mW/g.

Diagram Showing WLAN Antenna Positions